**IN THE CLAIMS:**

1. *(currently amended)* A device for sending or receiving optical signals, wherein an opto-electrical transducer, together with an associated glass fiber, are arranged on a common support, **characterized in that**

- the support is a circuit board (1) comprising different multiple layers of insulation material and intermediate layers of metal, with an integral recess (2) formed therein containing an opening (3) and a bottom (4) on which conducting tracks (10) are installed and at least some of the conducting tracks are impedance-matched,
- the transducer is entirely located in the recess (2) without projecting from the recess, and is connected to the conducting tracks (10),
- at least some of the conducting tracks (10) protrude laterally from the recess (2) to the surrounding edge areas of the circuit board (1), where at least some of [[them]] said tracks are connected to impedance-matched conductors (11) that extend to a common surface on the inside of the circuit board (1) where [[they]] said tracks respectively end on a contact surface (12),
- the glass fiber (8) exits from the recess (2) through an opening in the circuit board (1), and
- an electrically active shield is installed around the circuit board (1).

2. *(original)* A device as claimed in claim 1, **characterized in that** the conducting tracks (10) used to conduct high-frequency signals are designed as impedance-matched waveguides, in particular as microstrips.

3. *(original)* A device as claimed in claim 2, **characterized in that** the opening (3) of the recess (2) is closed by a plate (9).

4. *(original)* A device as claimed in claim 3, **characterized in that** the plate (9) is made of metal.

5. *(original)* A device as claimed in claim 4, **characterized in that** the contact surfaces (12) of the conductors (11) are installed on the surface of the circuit board (1) in which the opening (3) of the recess (2) is located.

6. *(original)* A device as claimed in claim 5, **characterized in that** the contact surfaces are distributed around the recess (2).

7. *(original)* A device as claimed in claim 6, **characterized in that** the impedance-matched conductors (11) are respectively designed as coaxial lines with an internal conductor (14) that is connected in a reflection-free manner to the impedance-matched conducting tracks (10), and with feedthrough contacts (15) that are arranged concentrically around the latter and have clearance with respect to each other, which are interconnected to conduct electricity at least at one point, and are connected to ground.

8. *(withdrawn)* A device as claimed in claim 6, **characterized in that** the impedance-matched conductors (11) are respectively designed as differential coaxial double conductor lines with internal conductors (14a, 14b) that are connected in a reflection-free manner to the impedance-matched conducting tracks (10), and with feedthrough contacts (15) that are arranged concentrically around the latter and have clearance with respect to each other, which are interconnected to conduct electricity at least at one point, and are connected to ground.

9. *(withdrawn)* A device as claimed in claim 8, **characterized in that** metallic surfaces (16) are located on the bottom of the recess (2), on which heat producing elements are installed and are connected in a heat-conducting manner to metallic surfaces (17) located on an open surface of the circuit board (1).

10. *(original)* A device as claimed in claim 1, **characterized in that** the opening (3) of the recess (2) is closed by a plate (9).

11. *(original)* A device as claimed in claim 10, **characterized in that** the plate (9) is made of metal.

12. *(original)* A device as claimed in claim 1, **characterized in that** the contact surfaces (12) of the conductors (11) are installed on the surface of the circuit board (1) in which the opening (3) of the recess (2) is located.

13. *(original)* A device as claimed in claim 12, **characterized in that** the contact surfaces are distributed around the recess (2).

14. *(original)* A device as claimed in claim 1, **characterized in that** the impedance-matched conductors (11) are respectively designed as coaxial lines with an internal conductor (14) that is connected in a reflection-free manner to the impedance-matched conducting tracks (10), and with feedthrough contacts (15) that are arranged concentrically around the latter and have clearance with respect to each other, which are interconnected to conduct electricity at least at one point, and are connected to ground.

15. *(withdrawn)* A device as claimed in claim 1, **characterized in that** the impedance-matched conductors (11) are respectively designed as differential coaxial double

conductor lines with internal conductors (14a, 14b) that are connected in a reflection-free manner to the impedance-matched conducting tracks (10), and with feedthrough contacts (15) that are arranged concentrically around the latter and have clearance with respect to each other, which are interconnected to conduct electricity at least at one point, and are connected to ground.

16. *(previously presented)* A device as claimed in claim 1, **characterized in that** first metallic surfaces (16) are located on the bottom of the recess (2), on which heat producing elements are installed and are connected in a heat-conducting manner to second metallic surfaces (17) located on an open surface of the circuit board (1).

17. *(previously presented)* A device for sending or receiving optical signals comprising:

- an opto-electrical transducer;
- a glass fiber associated with said opto-electrical transducer;
- a circuit board having multiple layers of insulation material and intermediate layers of metal with an integral recess formed therein containing an opening and a bottom on which conducting tracks are installed, wherein at least some of the conducting tracks are impedance-matched; and
- an electrically active shield installed around the circuit board;

wherein the opto-electrical transducer is located entirely within the integral recess without projecting from the recess and is connected to the conducting tracks;

wherein at least some of the conducting tracks protrude laterally from the recess to the surrounding edge areas of the circuit board where at least some of the conducting tracks connect to impedance-matched conductors that extend to a common surface on the inside of the circuit board where they respectively end on a contact surface;

wherein the end of each impedance-matched conductor is positioned on the contact surface so as to be connectible to contacts on a circuit board, and

wherein the glass fiber exits from the recess through an opening in the circuit board and an electrically active shield around the circuit board.

18. *(previously presented)* A device as claimed in claim 17, further comprising peripheral elements in cooperative engagement with the opto-electrical transducer and further positioned on the conducting tracks so that the opto-electrical transducer and peripheral elements are positioned relative to each other in a planar configuration.

19. *(previously presented)* A device as claimed in claim 17, wherein the impedance-matched conductors are coaxial lines with an internal conductor that is connected in a reflection-free manner to the impedance-matched conducting tracks, and with feedthrough contacts arranged concentrically around the internal conductor with clearance with respect to each other and interconnected to conduct electricity at least at one point.

20. *(previously presented)* A device as claimed in claim 17, further comprising first metallic surfaces located on the bottom of the recess, on which the opto-electrical transducer is located, said first metallic surfaces in thermal contact with second metallic surfaces located on an open surface of the circuit board.